U.S. Department
of Transportation

**Federal Railroad
Administration**

1200 New Jersey Avenue, SE
Washington, DC 20590

MAR 5 2009

Mr. Brian K. Saltz
General Attorney
Long Island Railroad Company
Jamaica Station
Jamaica, NY 11435-4380

Dear Mr. Saltz:

This letter is in response to Long Island Railroad's (LIRR) September 29, 2008, Petition for Reconsideration (Petition) of the Federal Railroad Administration (FRA) Railroad Safety Board's (Board) decision in Docket Number FRA-2008-0044. In its decision, the Board denied LIRR's request for a waiver from the minimum locomotive horn sound level required by Title 49 Code of Federal Regulations (CFR) § 229.129(a). After careful review of LIRR's petition, the relevant facts and regulatory requirement at issue, I am affirming the decision of the Board as detailed in its August 20, 2008, letter and denying LIRR's Petition for the reasons stated below.

LIRR's original waiver request specifically requested relief from the requirement found in 49 CFR § 229.129(a) that lead locomotives "be equipped with a locomotive horn that produces a minimum sound level of 96db(A) ... at 100 feet forward of the locomotive in the direction of travel." Specifically, LIRR requested that the lead locomotives on its M-3 and M-7 electric trains, which typically travel through densely developed and populated areas, be permitted to be equipped with audible warning devices that produce a minimum sound level, when tested, of 92 db(A) at 100 feet forward of the locomotive in its direction of travel. In support of this request, LIRR asserted that in-service testing of its locomotive horns demonstrated that the sound levels of the horns "averaged several db(A) higher than the average db(A) level LIRR recorded" in tests conducted in accordance with 49 CFR § 229.129(c)(5). LIRR expressed the belief that the difference was the product of the physical environment in which its electric trains operate (i.e., densely developed urban areas with many structures immediately adjacent to the rail corridor), as opposed to the open areas used as test sites for horns in accordance with 49 CFR § 229.129. LIRR then concluded that "reducing its required minimum train horn sound level to 92 db(A) during testing would still typically produce a sound level of 96db(A) when the trains are in service."

Further, in support of its request to equip its locomotives with horns set at 92 db(A), LIRR noted that prior to 2004, FRA regulations "provided a 4 db(A) measurement tolerance for the minimum sound level required of train horns." On this basis, LIRR effectively concluded that the de facto minimum sound level requirement of 49 CFR 229.129(a) prior to 2004 was 92 db(A).

Citing the absence of any data supporting LIRR's request for relief and the importance of providing an effective audible warning to motorists of trains approaching highway-rail grade crossings, the Board denied LIRR's waiver request.

In its Petition, LIRR reiterates the assertions discussed above and additionally implies that the Board erred in denying its request for relief because the Board effectively agreed with LIRR's assertion "that the train horn sound levels for electric trains in service were several db(A) higher than the levels recorded in the open area tests." LIRR further asserts that the Board had no basis to conclude that the same in-service testing could lead to lower noise measurements. In fact, the Board's decision letter specifically stated that the Board accepted as true LIRR's assertion that "the testing done by LIRR establishes that the 'effective' level of the horn is 4 dB(A) higher in certain field locations." (Emphasis added). In other words, the Board recognized that due to numerous factors that could affect the acoustic environment at any given time, in any given location (e.g., speed of train, weather conditions, length of horn sound, acoustic reflective surfaces in the vicinity of the testing), in-service testing could, in some instances, lead to higher noise measurements than testing performed under 49 CFR § 229.129(c)(5). Similarly, the Board noted that in-service testing could, in some instances, lead to lower noise measurements than testing performed under 49 CFR § 229.129(c)(5). Specifically, the Board stated that "it is perfectly possible that measurements taken in similar locations under slightly different conditions . . . could lead to findings of a deficit of 4 db(A) from the target level, thus leading to an 'effective' level of horn sound 8 db(A) less than the regulatory requirement." This conclusion is based on fundamental principles of acoustics. Such variables as wind direction and speed will effect the propagation of sound either increasing or decreasing the level measured. The location and acoustic properties of reflecting surfaces can either increase or decrease the level measured. Finally, whether or not the train was moving, and how precisely the distance to the source was verified at the time of the measurement can dramatically effect the level measured.

The "target level" noted in the Board's letter necessarily refers to the minimum locomotive horn sound level of 96db(A) required by 49 CFR § 229.129(a). That minimum sound level reflects FRA's longstanding required minimum sound level designed to assure the effectiveness of locomotive horns in warning motorists of approaching trains. See 65 FR 2230, 2239 (Jan. 13, 2000). As noted in the Board's letter, prior to the regulatory amendments referenced in LIRR's Petition, 96 db(A) was the minimum sound level for locomotive horns and the 4 db(A) tolerance was intended to account for potential variability among sound meters in use at the time for compliance measurement purposes only. See 68 FR 70,586, 70,610 (Dec. 18, 2003) and 70 FR 21,844, 21,880 (Apr. 27, 2005) (noting that if FRA reduced the minimum sound level for locomotive horns to 92 dB, the locomotive horn sound level would be "drastically reduced to approximately 79 dB(A) at the motorist decision-making point" and that "[d]espite the benefits in decreased noise exposure that might result from such a reduction, FRA is unwilling to reduce the minimum required sound level, given the corresponding reduction in horn effectiveness"). Accordingly, the 4 db(A) permissible variation did not create a de facto 92 db(A) minimum sound requirement. Accordingly, LIRR's reliance on the previous 4 db(A) measurement

tolerance is misplaced.

Finally, it its Petition for reconsideration, LIRR cites two previous waiver proceedings and 49 CFR 222.3(c) which excepts certain Chicago area grade crossings from 49 CFR Part 222 (the train horn rule). Because the bases for the previous waiver decisions and § 222.3's exception for Chicago area crossings are factually distinguishable from LIRR's situation, such reliance is misplaced. First, the waiver granted the *Lackawanna County Railroad Authority* in Docket Number FRA-2000-7275 involved operation of a historic light rail trolley over approximately five miles of track at a slow speed. The *Sacramento Regional Transit District* proceeding in Docket Number FRA-2006-24216 involved a rapid transit operation utilizing light rail style vehicles and which is exempt from the requirements of 49 CFR § 229.129 by virtue of paragraph (d) of that section. Similarly, as detailed in the train horn Interim Final Rule and Final Rule documents, 49 CFR § 222.3(c) which excepts certain Chicago area grade crossings from the requirement of the train horn rule to sound locomotive horns when traversing highway-rail grade crossings, is based on the very specific and unique operating environment and system of long-standing whistle-bans in the Chicago area. See 68 FR at 70,611 and 70 FR at 21,880. Accordingly, none of the systems which are the subject of 49 CFR § 222.3(c) or either of the cited waiver proceedings are in any way similar to the operations or equipment of LIRR.

In conclusion, the static open area testing requirements of 49 CFR § 229.129 are specifically designed to provide consistent, repeatable measurements of horn sound levels to ensure the levels are within a specific range across a wide variety of circumstances and environments. The primary reason for the horn testing protocol prescribed in 49 CFR § 229.129(c)(5) is to avoid the kind of variability all of these factors contribute when measuring the sound levels of horn output. The 96 db(A) minimum required sound level is designed to ensure that locomotive horns provide effective audible warning of an approaching train to motorists in most circumstances. Accordingly, I cannot conclude that granting LIRR's request for relief would be in the public interest and consistent with railroad safety and am hereby denying LIRR's Petition for Reconsideration.

Recognizing the apparent concerns of the communities through which LIRR operates, however, I invite LIRR and the affected localities to consider the creation of quiet zones at appropriate locations pursuant to 49 CFR Part 222. FRA regional personnel would be happy to assist in such endeavors.

Sincerely,

Jo Strang
Acting Deputy Administrator